



# The Role of Traffic Engineering in Safe Communities

## In Brief

Traffic safety is an integral part of the Safe Communities program, and the participation of traffic engineers is critical. While traffic engineers play central roles as technical experts and consultants, they also perform valuable services as teachers of traffic concepts and catalysts in team formation. The benefits to Safe Communities for including the traffic engineer are substantial, opening up new avenues of information and resources that might otherwise go untapped. Because of their high level of commitment, traffic engineers are willing to share their expertise and help Safe Communities achieve the goal of safe roadways for the traveling public, whether they are in vehicles, on bicycles, or on foot. They simply need to be asked!

The Safe Communities program provides a model to identify and solve local safety concerns and problems through the combined efforts of concerned citizens and professionals from many disciplines, including enforcement, education, emergency services, and engineering.

One important aspect of Safe Communities is increasing traffic safety by reducing the number and severity of crashes, whether vehicular, pedestrian, or bicycle. This is accomplished in steps. First, safety concerns are identified, and the traffic components are analyzed. Traffic components include lighting, landscape features, pavement condition, signing, speed, and roadway capacity, to mention a few. In the next steps, recommendations are developed, accepted and approved, and then implemented. While these safety concerns may be identified by Safe Communities' participants or private citizens who have personal knowledge of traffic safety issues, technical expertise is essential to the process.

For this reason, traffic engineers are in a unique position to support and promote the expanding crash and injury reduction efforts being implemented through the Safe Communities program. Traffic engineers are professionally trained in roadway engineering and traffic flow concepts and principles, with safety as a key element. Although these experts are called traffic engineers, it may be more appropriate today to call them "transportation" engineers. They are concerned about the movement of people on public roadways: not only people operating vehicles, but also people who are pedestrians and bicyclists.

## What Traffic Engineers Do

Traffic engineers perform a variety of roles in Safe Communities — technical

expert, consultant, teacher, and program catalyst. Typical programs that traffic engineers are involved in include pavement markings, roadside safety, speed studies, sign programs, identification of high hazard locations, and work zone safety.

As a technical expert, the traffic engineer analyzes crash data. This analysis includes locating crash concentrations, road deficiencies, and other factors contributing to a crash problem. These data can come from state and/or local levels. Obviously, better data result in better problem identification and better solutions.

In the role of consultant, the local traffic engineer's familiarity with the current transportation systems and environment is a valuable tool. Traffic engineers can easily visit sites that have been identified as problems, talk to people who have first hand knowledge of the situation being evaluated, and conduct studies to assess the current traffic environment. Because of their expertise, traffic engineers often can provide an objective view in studying crash occurrences and possible remedies.

Another important role of the traffic engineer is that of teacher. Because traffic engineering is highly technical and complex, traffic engineers have almost continuous opportunities to acquaint program participants with key concepts that increase understanding about what is possible, probable, and impossible in addressing and solving traffic problems. Improved communication among local citizens, law enforcement, and school and emergency personnel increases participant understanding of the challenges in providing a safe and efficient transportation environment. A key to the success of these efforts is learning each others' roles, responsibilities, and expertise to discover how these strengths can be combined in the most effective way.

Finally, if a community does not have a traffic safety program in place, state or local traffic engineers can serve as catalysts in establishing one. There is sometimes a misconception that traffic engineers are uninterested in safety-related fields outside of transportation and that their responses to traffic safety concerns are "reactive" rather than "proactive." This is clearly not the case in progressive areas where transportation experts have realized that they cannot solve safety problems on public roads without help from a variety of community interests. In these locales, the disciplines concerned with influencing driver behavior (volunteers from the 4 E's: Education, Enforcement, Engineering, and Emergency Medical Services) have been brought together and formed community traffic safety teams, either functioning independently or as a part of the Safe Communities program.

Although most teams are formed at the county level, teams can be formed within a city, a county, a portion of a county, multiple counties, or any other jurisdictional arrangement. Teams are composed of and chaired by volunteers from all 4 E's, as well as private citizens, people with a commitment to community safety. It is important to note that while the traffic engineers may take the lead in initiating teams, once a team is established, they serve as team members, functioning primarily in the other roles, as technical expert, consultant, and teacher.

## **What Benefits Traffic Engineers Provide**

Safe Communities programs benefit when traffic engineers participate, because traffic engineers are committed to making roadways more “user friendly” and forgiving. Traffic engineers are analytical and well-equipped to develop cost-effective engineering solutions to identified safety problems. As team members, these professionals provide high quality, low cost technical assistance, and when they are employed by the public sector, often have access to various resources earmarked for traffic safety projects. Because traffic engineers from local government are often active team members, they can explore the availability of additional safety improvement funding from the local level.

Always on the lookout for better ways to provide a safer and more efficient traveling environment, traffic engineers have ready access to available crash data, the ability to collect and interpret additional information, and the expertise to make recommendations based on sound traffic engineering practices. State safety offices collect and maintain crash databases for their state highway systems. This information can be combined with crash data from the local traffic engineer. Databases, such as “run” reports from emergency medical services and records of police citations are also valuable when addressing traffic safety concerns.

## **How to Get Traffic Engineers Involved**

Securing the participation of traffic engineers is not difficult, especially if the traffic safety program is supported by a state transportation agency. Often, in fact, those who start the teams are traffic engineers employed by the agency and charged with that responsibility. However, successful teams also need traffic engineering representatives from local and county jurisdictions. The simplest way to gain the support from these transportation experts is to supply them with background information about Safe Communities and invite them to attend an “interest” meeting. At this initial meeting, it is important first to explain the team’s need for their professional traffic engineering expertise and then to ask for their participation in the program. In subsequent meetings, those most excited about the program may volunteer to lead the effort, and these early adopters will provide the impetus for traffic engineering as an active, effective component of Safe Communities.

## **About the Author**

E. Doyle Lasseter, P.E., District One Safety Engineer at the Florida Department of Transportation (FDOT), is a highway engineer with 27 years experience. Involved in community service and development for much of his career, both professionally and as a private citizen, he has taken an active role in initiating and directing Florida’s Community Traffic Safety program (CTSP) in District One, providing advice and expertise to groups starting out. Since its inception in 1991, the CTSP has expanded to 31 teams throughout the state, 10 of which are in District One. In 1996, Lasseter was presented a Special Achievement Award from the FDOT for “exceptional contributions and achievements resulting in significant benefits to the Department and state government.”

